

## ABSTRACT

In ultrahigh speed data transfer, a drive pulse is attenuated due to a skin effect and a dielectric loss, and a tail generated by a sub coupler extends as the drive pulse propagates on the main line. For that reason, an intersymbol interference becomes large, which causes jitters. In a memory system to which a plurality of DRAM memory modules are connected, in order to transfer data at high-speed, directional couplers are wired between a main controller and each of the modules, and the coupling lengths become longer with farther ends, thereby suppressing jitters. The directional couplers are wired between the main controller and each of the modules, and the coupling lengths are made longer with the farther ends with the results that the generated signal amounts are made constant, and jitters of the wiring and receiver delay are suppressed.